Problematic AI: Finding the Best Path Forwards Feb 10th 2023

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The Good Work Charter

1 Access

Everyone should have access to good work

- 2 Fair pay Everyone should be fairly paid
- 3 Fair conditions Everyone should work on fair conditions set out on fair terms
- 4 Equality Everyone should be treated equally and without discrimination
- 5 Dignity Work should promote dignity
- 6 Autonomy Work should promote autonomy
- 7 Wellbeing

Work should promote physical and mental wellbeing

8 Support

Everyone should have access to institutions and people who can represent their interests

9 Participation

Everyone should be able to take part in determining and improving working conditions

10 Learning

Everyone should have access to lifelong learning and career guidance



What has gone wrong with AI in the past?

How is this detected?

What do we need to do better?



What has gone wrong with AI in the past?



Technology is supposed to..

- Improve productivity: but ML only does this when humanmachine elements are designed to interact well (Shollo *et al.*, 2022)
- Remove 'dull, dirty and dangerous' work (substitute or displace): but whether this drives increased discretion, or decreased discretion depends on approach to design development and deployment





LOW DISCRETION AUGMENTATION

Early theories computerisation = 'Skills Biased' Technological Change (Spitz-Oener, 2008) 'High Discretion Augmentation'.

But AI:

Can be deployed to substitute worker decision making about when, where or how to do work

Can be designed to overcome 'Polanyi's paradox' (tradeoffs with Moravec's Paradox)

Newer theory of 'superstar' models = 'Capital-Biased' technological change (Autor *et al.,* 2020)

Impacts Pay, Conditions, Learning, Wellbeing





INTENSIFICATION

Imbalance between job demands and job control

'Effort Biased Technological Change' (Green 2000; 2001; 2004 Guy & Skott 2005, 2007)

Impacts Wellbeing, Conditions, Dignity, Autonomy





LIQUIDISATION

- 'Digital thread' reduces frictions; improving 'the match'
- Seamless matching can allow wage elasticities to be exploited
- Combined with a transformation of contract type can drive 'under-employment' (ILO, 2020)
- 'Wiring the Labour Market' (Autor, 2017)
- Impacts Access, Conditions, Pay





How is this detected?



Detecting Impacts on Good Work

• Currently, no requirement for **ex ante evaluation, reporting** or **monitoring**

- Data Protection Impact Assessments do not require the assessment of group outcomes because they are focused on personal data; are not disclosed; offer a snapshot view; and do not extend to long-term, systematic impacts.
- There are no clear requirements for companies to pre-emptively consider collective, adverse impacts, or make appropriate adjustments.
- Methods or templates to structure consideration or forecasting of harms in advance of system deployment, before impacts arise, are few and far in between and are not mandated in legislation.



I know why and for what purposes my employer uses data collected about me

Total n = 977. Fieldwork completed between August and October, 2020. By USDAW in partnership with IFOW.



If my data is used to assess or make predictions about my performance, I know how it is used to do so Total n = 974. Fieldwork completed between August and October, 2020. By USDAW in partnership with IFOW.





I know whether my data is being shared with 3rd parties

Total n = 963. Fieldwork completed between August and October, 2020. By USDAW in partnership with IFOW.





Figure 14: I trust my employer knows how to protect my rights when using my data

Total n = 940. Fieldwork completed between August and October, 2020. By USDAW in partnership with IFOW.

Not at all confident	34%
Slightly confident	23%
Somewhat confident	20%
Moderately confident	12%
Extremely confident	11%

.....



What do we need to do better?







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"The principles of 'good work' should be recognised as fundamental values ... to guide development and application of a humancentred AI Strategy. This will ensure that the AI Strategy works to serve the public interest in vision and practice, and that its remit extends to consider the automation of work."

Tim Clement Jones, former Chair of the House of Lords Artificial Intelligence Select Committee







Chartered Institute of Personnel and Development





All-Party Parliamentary Group on the Future of Work

Participatory Design		Worker Led	Dynamo	iconstituições de la constituição de la constituiçã
Decign by	Participatory		Turkopticon	Collective Actionable Recourse to
Debate	Research		Crowd Sourced Audits	Explanations
Ex-ante				Post-ante
Anticipatory Technology Ethics	y HRIA			
Ethical Foresight Analysis			Preference Elicitation	Social Choice
ETICA	_Far Future	Info		Theory
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Key Human Choices

Design

The problem to be solved and rationale; new forms of value creation; implicit expectations about changes to job or task design

Development

Datasets, model, optimisation functions (including key constructs used to evaluate and assess, such as those relating to monitoring, evaluating or managing work, recruitment, promotion, dismissal) weightings, validation, trade-offs etc

Deployment

Physical integration (hardware location, ownership, etc); social integration (access to recommendations, training of humans in loop to understand limitations) Oversight (responsible and accountable agents, routes to redress, monitoring plans)



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Identify
 and Involve
 Relevant
 Stakeholders











2. Ex-Ante Risk Assessment

Stage	Constructive Commitments	Scenario Development	Ranking
Design	Is there a shared sense of 'the problem'?	N/A	N/A
Development	Are optimisation criteria fair? Are constructs datasets used likely to support 'valid' assessment?	Work up 'best' and 'worst' case scenarios about how system design could impact good work (e.g. equality - demographic composition of the team;	In worst case scenarios, how severe would these impacts be? In best case scenarios, how are the benefits
	Were trade-offs justified?	participation)	distributed?
Deployment	Are mechanisms for	Work up 'best' and worst	In worst case scenarios,
	Is it clear who is accountable	system implementation	impacts be?
	for system failure?	(e.g support - relationships between	In best case scenarios, how are the benefits
	Are labour saving expectations realistic?	members of the team; fair terms and conditions)	distributed?



3. Mitigations

Rights and Entitlements

Distributed rewards

Universal Design Changes

Tailored Design Changes



4. Ongoing monitoring andevaluation of impacts



Source: Terry Smutyle & Deniel Moreles-Gomez



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Thank you for listening.

Please get in touch for academic discussion, or to join our research pilots

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